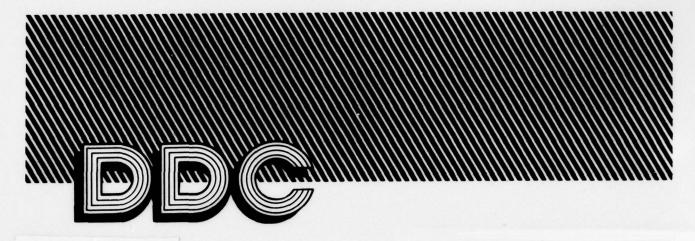
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#### **INNOVATION**

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DDC-TOS Cameron Station Alexandria, Va. 22314

**MARCH 1979** 

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Alexandria, Va. 22314

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his bibliography is a	selection of unclas	ssified and unlimited re-
erences on innovation	i; its applications,	technology, administration
nd industry. These r	references are specif	fically concerned with
echnological change,	impact, evaluation a	and measurement. Other
pplications cited are	in education, train	ning, organizational
tructure, decision ma	aking and politics.	Four indexes are provided
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uthor.		

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19. KEY WORDS

Technological Impact Assessment Technology Forecasting Technological Change Technological Advancement Measurement Quantification Innovation Resistance

Into diditor apply is a selection of unclassified and unlimited foreness on immovation; its applications, rechnology, administ and industry. These references are specifically concerned with

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#### FOREWORD

This unclassified and unlimited bibliography contains 55 selected citations of reports on *Innovation*.

The importance of research and development in the field of innovation is currently needed and is being highlighted by many industrial companies and government agencies today.

These citations measure and assess innovation by subjective evaluation and by the use of various studies and tests.

References were taken from entries processed into the Defense Documentation Center Technical Report (AD) data bank during the period of July 1964 to December 1978.

Individual entries are arranged in numerical descending sequence under the heading AD bibliographic references.

Computer generated indexes of Corporate Author/Monitoring Agency, Subject, Title and Personal Author are provided.

BY ORDER OF THE DIRECTOR, DEFENSE LOGISTICS AGENCY

**OFFICIAL** 

HUBERT E. SAUTER

Administrator

**Defense Documentation Center** 

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TITLE	T-1
PERSONAL AUTHOR	P-1

3

SEARCH CONTROL NO. DDC REPORT BIBLIDGRAPHY SOMOS SEARCH CONTROL NO.

SYSTEM RESEARCH LTD RICHMOND (ENGLAND) 6/4 AD-A050 460

DDC REPORT BIBLIDGRAPHY

The Influence of Learning Strategy and Performance Strategy upon Engineering Design. DESCRIPTIVE NOTE: Progress rept. no. 4, 1 May-30 Sep 76.

Bailey, R. ; Ensor, D. ; Pask, NOV 76 100P G. ; Watts, T. ;

F44620-76-C-0003 PROJ: 2313 CONTRACT:

TR-78-0134 AFOSR MONITOR:

Availability: Microfiche copies only. UNCLASSIFIED REPORT

DESCRIPTORS: \*Creativity, \*Learning, \*Engineers, \*Experimental design, Reasoning, Analogies, Comprehension, Problem solving, Strategy, Pattern recognition, Simulation, Students, Training, Test construction(Psychology), Computer applications, Teams(Personnel)
IDENTIFIERS: \*Engineering design, \*Design analysis, Innovation, Cognition, Learning styles, Experienced personnel, PE61102F, WUAFOSR2313A2

designer may innovate by analogical reasoning within result, it should be possible to conduct the entire experiment (including tests and team design task) within 50 to 60 hours without losing the essential design products (reaction simulator, in the first task). The report contains a brief account the (electronic) task domain or between the task domain and the (physical chemistry) application domain. An initial breakdown of the first design This report answers questions raised in Progress Report 3 (AD-A050 460), and clanifies the hypotheses being tested and the measures being of two designs produced by two expert designers. employed as determinants of cognitive style and features of the first task; in particular, the Since design time proved longer than expected, steps were taken to reduce design time. As a task is provided. design

# UNCLASSIFIED

SYSTEM RESEARCH LTD RICHMOND (ENGLAND) AD-A050 298

The Influence of Learning Strategy and Performance Strategy upon Engineering

Design.

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JUL 77 18P Bailey, R. : Pask, Gordon ; CONTRACT: F44620-76-C-0003

DESCRIPTIVE NOTE: Progress rept. no. 7, 1 Apr-30 Jun

PROJ: 2313

TR-78-0128 MONITOR: AFOSR UNCLASSIFIED REPORT

DESCRIPTORS: \*Creativity, \*Learning, \*Engineers, Experimental design, Problem solving, Strategy, Pattern recognition, Students, Training, Reasoning, Analogies, Comprehension,

3

3

Methodology, Teams(Personnel)
IDENTIFIERS: \*Engineering design, Experienced
personnel, Innovation, Design analysis, Learning
styles, Versatility training, PE61102F,

3 The report describes the current status of work on the individual and team design tasks. One finding reported is a marked reliance upon analogical reasoning in design.

3

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SEARCH CONTROL NO. ZOMO9 DDC REPORT BIBLIDGRAPHY

NAVAL POSTGRADUATE SCHOOL MONTEREY CALIF AD-A047 125

The Roles and Identification of Innovators and Linkers in the Technology Transfer Process.

Hochberger, Lyle K. : Woolley, DESCRIPTIVE NOTE: Master's thesis, NPS-54Cf77092 149P 11 REPT. NO. Bill G.

# UNCLASSIFIED REPORT

management, Management engineering, Utilization, Identification, Information exchange, Inventions, Surveys, Questionnaires, Statistical analysis, \*Technology transfer, \*Research DESCRIPTORS:

IDENTIFIERS: Innovation(Technology)

33

differentiate is validated through the results of a respondents. Extensive analysis is performed on the transfer is advanced. Distinction is drawn between the innovator, the inventor, and the linker categories of individuals. An instrument is linker. The instrument is administered to a set of results of both the questionnaire and the personal individuals and the ability of the instrument to developed to identify both the innovator and the recommendations for additional investigation are The concept that the innovator is a unique and essential element in the process of technology series of interviews with a sample of the interviews. Conclusions are drawn, and provided. (Author)

#### UNCLASSIFIED

1-A043 705 5/10 5/1 ARMY COMMAND AND GENERAL STAFF COLL FORT LEAVENWORTH DDC REPORT BIBLIDGRAPHY SEARCH CONTROL NO. ZOMO9 AD-A043 705

Brainstorming to Increase Alternative Generation: A Comparison of Group Participation and Pooled Individual

3

DESCRIPTIVE NOTE: Final rept., JUN 77 168P Wattend

Wattendorf, John ;

3

Availability: Microfiche copies only. SUPPLEMENTARY NOTE: Master's thesis. UNCLASSIFIED REPORT

3 3 \*Leadership, Problem solving, Social psychology, DESCRIPTORS: \*Creativity, \*Group dynamics, IDENTIFIERS: \*Brainstorming, Innovations Organizational behavior, Human behavior Behavior, Management, Theses

from numerous brainstorming experiments cast doubt on group to the pooled ideas produced by an equal number the efficacy of group participation in brainstorming. brainstorming using currently recommended techniques. compares the effect veness of group brainstorming to individual brainstorming by contrasting the quantity the major brainstorming experiments and attempts to group brainstorming. However, the findings reported studies in the experimental design. The methodology brainstorming within the constraint of practicality Nevertheless, criticisms of the experiments abound and the technique continues to be a popular, technique and determine the desirability of a more potential usefulness of group brainstorming is not and quality of ideas generated in a brainstorming alternative generation or ideation. An often espoused method of improving ideation is the use support the superiority of individual over group The ability to creatively solve problems is a critical skill for a military commander/manager. Creative problem-solving depends upon creative of individuals working alone. The study reviews comprehensive field study. The findings clearly directly address the major criticisms of those in a military setting in order to evaluate the recommended management tool. This pilot study Nevertheless, the study demonstrates that the maximizes the potential for effective group dead issue and further study is warranted.

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DDC REPORT BIBLIDGRAPHY SEARCH CONTROL NO. ZOMO9

Control Did to

AD-A042 464 5/10 STATE UNIV OF NEW YORK AT BUFFALO DEPT OF PSYCHOLOGY

A Further Look at Leader Legitimacy, Influence, and Innovation.

3

Hollander, Edwin P. ; Julian, DESCRIPTIVE NOTE: Technical rept., JUN 77 21P Hollander,

CONTRACT: N00014-76-C-0754 TR-4 REPT. NO.

# UNCLASSIFIED REPORT

3 DESCRIPTORS: \*Leadership, Group dynamics, Personality, Replacement, Failure, Creativity, Males, Females

leadership, Influence, Mixed Sex groups, Verbal Appointment, Electron, Successful participation, Participation, Innovation, WUNR170824 IDENTIFIERS:

replacement of the leader; sex of leader in mixed-sex groups; emergent leadership as a function of quantity and quality of participation in discussion groups; task and personality factors in emergent leadership. programmatic research on the interactive features of leadership is provided. Topics dealt with in these election of leaders; success or failure of group; A review of the findings of several lines of studies include: effects of appointment or

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SEARCH CONTROL NO. DDC REPORT BIBLIDGRAPHY

NAVY PERSONNEL RESEARCH AND DEVELOPMENT CENTER SAN DIEGO AD-A036 480

Sonar Operators' Attitudes and Beliefs: Effects of Introduction of New Systems.

3

John P. ;Cohen, Peter A. ;Young, Leanne E. ; PROJ: NS. NPRDC-TR-77-18 DESCRIPTIVE NOTE: Technical rept. Jul 75-Jun 76, FEB 77 53P Abrams, Macy L. ;Sheposh,

TASK: ZF55521021

# UNCLASSIFIED REPORT

DESCRIPTORS: \*Attitudes(Psychology),
\*Adjustment(Psychology), Sonar operators,
Performance(Human), Behavior, Sonar equipment,

Acceptability, Naval training, Shipboard, Sonar Modification, Stress(Psychology), personnel

3

IDENTIFIERS: Innovat.on(Technology), AN/SQQ-23, WU5210210302, PE62763N

3 3

3 the level of operators' performance, the more routine sonar operators used the various functions and features of new systems properly, their evaluations of various aspects of the system, and the relationship of these evaluations to their performance on the system. Results indicated that: (1) None of the operators The present study assessed the extent to which 41 leadership or organ, zation, were not related to necessary to solve the problem; (2) The higher their orientation toward the system; and (3) Successfully performed all of the operations General indices, such as satisfaction with performance. (Author)

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(Author)

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SOMOS SEARCH CONTROL NO. DOC REPORT BIBLIDGRAPHY

OFFICE OF THE DIRECTOR OF DEFENSE RESEARCH AND ENGINEERING WASHINGTON D C AD-A032 372

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Report of the Defense Science Board Task Force on Technology Base Strategy.

41P

OCT 76

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# UNCLASSIFIED REPORT

DESCRIPTORS: \*Military planning, \*Department of Defense, \*Technology, \*Military budgets, \*Management planning and control, Scientific research, Military research, Military research, Resources, Allocations, Assessment, Laboratories, Advanced weapons, Weapon system effectiveness, Test and evaluation, Missions, DENTIFIERS: Innovations Standardization

33

3 from industry, medicine, government, and universities Director of Defense Research and Engineering. The Task Force was chosen to include members with a broad range of technology experience. Strategy was prepared at the request of the The attached report of the Defense Science Board Task Force on Technology Base

SOM05 SEARCH CONTROL NO. DDC REPORT BIBLIDGRAPHY

AD-A032 273 5/10 AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OHIO

Innovation and Productivity in Research and Development: Some Associated Individual and Organizational Variables.

3

Stahl, Michael U. DESCRIPTIVE NOTE: Technical rept., REPT. NO. AFIT-TR-76-10 282P 94

# UNCLASSIFIED REPORT

DESCRIPTORS: \*Productivity, \*Scientific research, Literature surveys, Computer applications, Theses, \*Innovation, Age distribution, Group dynamics, Demography, Education, Participative management IDENTIFIERS: \*Innovation Rewards

3 3

> Detween organizational variables and innovation and of participation in goal setting and group leader's age-education demographic group of variables. Level scientists/engineers within the work group, and an level of empathy were also consistently related to The relationships of organizational variables with innovation and productivity of scientists and engineers in R and D laboratories were explored. obtained on 154 scientists/engineers in 35 work Peer ratings of innovation (original and useful productivity included: rewards for innovation, output) and product, vity (quantity of output) laboratories. Significant relationships found Communication on technical matters with other were utilized as cr.terion. Information was groups in three Air Force R and D level of productivity.

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AD-A022 235 DDC REPORT BIBLIDGRAPHY SEARCH CONTROL NO. ZOMO9

BATTELLE COLUMBUS LABS OHIO AD-A026 970

Herenan III

The Microcomputer: Technological Innovation and Transfer.

3

DESCRIPTIVE NOTE: Working paper Sep-Nov 75, DEC 75 41P Kleiman, Herbert S.; CONTRACT: MDA903-75-C-0131, ARPA Order-2857

# UNCLASSIFIED REPORT

3 DESCRIPTORS: \*Technology transfer, Microcomputers, Marketing, USSR, Microprocessors, Industrial production, Foreign technology, Inventions. Exports, Policies, Decision making IDENTIFIERS: Computer industry, Innovation(Technology), Electronics industry,

Competition, Embargoes

3

3 sources, is currently underway. Ultimately, this program should assist U.S. decisionmakers in analyzing a variety of related questions, including those associated with aspects of export embargo A research program to better understand technology transfer within the Soviet Union, whether that technology is obtained from outside or internal controls.

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DOC REPORT BIBLIDGRAPHY SEARCH CONTROL NO. ZOMD9

7-4022 235 5/9 RAND CORP SANTA MONICA CALIF

McLaughlin, Milbrey Wallin ; Macro and Micro Implementation, 17P 75

3

REPT. NO. P-5431 Berman, Paul ; MAY

# UNCLASSIFIED REPORT

change cannot be accomplished without new patterns of behavior. That is, new noles and relationships for teachers, administrators, and students need to be defined and maintained. Implementing such change is a difficult and uncertain process, which neither social science theory nor practical wisdom has thus far been able to illuminate. This essay, drawing on an analysis of educational innovation attempted in Significant educational change requires more than \*Management planning and control, \*Behavioral science, Pattern recognition, Roles(Behavior), Interpersonal relations, Effectiveness, Policies, the introduction of new technologies or the alteration of traditional curricula. Significant Adaptation(Physiology), Environments IDENTIFIERS: \*Educat.onal change, Innovations \*Education, \*Evolution(General), Cooperation, Surveys, Technology, DESCRIPTORS:

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aspects of the implementation process and suggests conceptualization that might serve as a basis to quide the development of theory and practice.

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SEARCH CONTROL NO. ZOMO9 DDC REPORT BIBLIDGRAPHY

SCHOOL STATE OF

FLORIDA STATE UNIV TALLAHASSEE CENTER FOR EDUCATIONAL TECHNOLOGY 4D-A019 489

DESCRIPTIVE NOTE: Final rept. 25 Jun 73-31 Dec 75, AUG 75 396P Branson,Robert K. :Rayner. Gail T. :Cox, J. Lamarr : Furman, John P. : Interservice Procedures for Instructional Systems Development, Phase III, Develop.

N61339-73-C-0150 ..... CONTRACT: King, F

UNCLASSIFIED REPORT

SUPPLEMENTARY NOTE: See also Phase 2, AD-A019 488 and Phase 4 and 5, AD-A019 490.

3 Teaching methods, Experimental design, Validation, Performance, Effectiveness IDENTIFIERS: Objectives, \*Interservice training, \*Instructional systems, \*Curriculum development, planning and control, Learning, Methodology, Selection, Reviews, Instructional materials, DESCRIPTORS: \*Military training, \*Management

Guidelines, Innovations

3

3 effectiveness by mixing media, using existing proven materials or devising new ones, evaluating existing materials for appropriateness, developing new The volume outlines important procedures in developing interservice training effectiveness. Elements emphasized are setting guidelines for learning objectives, obtaining instructional cost instruction where necessary, and validating all instructional materials.

## UNCLASSIFIED

DDC REPORT BIBLIDGRAPHY SEARCH CONTROL ND. ZOMO9

AD-A019 343 5/3 RAND CORP SANTA MONICA CALIF

Research on Technological Change in the American Economy: A Brief Discussion,

3

Harman, Alvin J. ; JUN 74 19P REPT. NO. P-5263

3

UNCLASSIFIED REPORT

DESCRIPTORS: \*Technology, \*Economics, Forecasting, United States, Polic.es, Commerce, International trade, Industrial research, Research management, Inventions IDENTIFIERS: Innovat.on(Technology), Technological change, Balance of trade

3 3

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5/3 1-4018 152 1/3 5/9 15/7 SYSTEMS RESEARCH LABS INC DAYTON OHIO AD-A018 152

Remotely Piloted Vehicles Design Option Decision Trees.

3

DESCRIPTIVE NOTE: Interim rept. 3 Dec 73-15 Apr 75, JUN 75 110P Potter,Norman R. :Korkan , Kenneth D. :Dieterly,Duncan L. ; CONTRACT:

PROJ: AF-7907 TASK: 790700

TR-75-29(3) MONITOR:

AFHRL

Availability: Document partially illegible.
SUPPLEMENTARY NOTE: See also Rept. no. AFHRL-TR-74-71, AD-A000 051. UNCLASSIFIED REPORT

Mathematical prediction, Human factors engineering, \*Remotely piloted vehicles, \*Human IDENTIFIERS: Design, Innovations, Decision tree resources, \*Decision making, \*Technology, \*Air Force personnel, Methodology, Reviews, Impact, Manpower, Information systems, Digital Assessment, Forecasting, Air Force research, options, Decision trees DESCRIPTORS:

3 3

A multiphased study effort was conducted to lead to components and measuring the effects of advances in systems. A first phase of the effort involved the conduct of an analysis of the literature to review the status of forecasting and assessing technology technology on human resources in Air Force weapon existing techniques to result in a new method for measuring the effects of technology on Air Force human resources. The fourth phase involved technology on human resource parameters (AFHRL-TR-74-71). The second phase involved the application of the method developed under phase the development of methods for determining the and of techniques for predicting the impact of development of unique methods or synthesis of development of Design Option Decision Trees (DODT) for two areas of Air Force systems technology (Digital Avionics Information System and Remotely Piloted Vehicle Systems). The third phase called for the

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SEARCH CONTROL NO. DDC REPORT BIBLIDGRAPHY

NAVY PERSONNEL RESEARCH AND DEVELOPMENT CENTER SAN DIEGO 5/10 AD-A017 602 CALIF

3 The Use of Evidence in Influencing Technician Attitudes.

Abrams, Alvin J. ; Sheposh DESCRIPTIVE NOTE: Technical rept. Jan 74-Jun 75,

SEP 75 47P AE John P. :Licht, Mark H. : REPT. NG. NPRDC-TR-76-10 PRGJ: NR-170-762

# UNCLASSIFIED REPORT

See also report dated May 74, AD-SUPPLEMENTARY NOTE: 782 331.

Effectiveness IDENTIFIERS: Change advocates, Innovations \*Attitudes(Psychology), \*Naval equipment, Personnel management, Applied psychology, Motivation, Shipboard, Naval planning, DESCRIPTORS: \*Technicians,

33

of technicians negatively affect system utilization. This study focused on a practical means of enhancing experienced technicians' awareness of the research has shown that specific negative attitudes other causitive factors which technicians correctly recognize. Objective evidence in the form of attitudes, while not discrediting the existence of This report describes the second study in a larger research effort to assess the effect of a Change existence and adverse effects of their negative introduction of a new hardware system. Previous shipboard observations on the ASROC system were Advocate role and a change model in the

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used to bring about the desired end.

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DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. ZOMO9

AD-A015 803 1/2
MCDONNELL DOUGLAS CORP LONG BEACH CALIF

water the state of the

Bird Strike Alleviation Techniques. Volume I. Technical Discussion.

3

DESCRIPTIVE NOTE: Final rept. 18 Feb 74-18 Feb 75, FEB 75 250P Lawrence, James H., Jr.; Bauer, A. B.; Childers, C. A.; Coker, M. J.

; Eng, R. K.; 06840 CDNTRACT: F33615-74-C-3038 PROJ: AF-2202 TASK: 220203

MONITOR: AFFOL TR-75-Vol-1

# UNCLASSIFIED REPORT

DESCRIPTORS: \*Bird strikes, \*Aviation safety, Deterrence, Detectors, Protective equipment, Windshields, Lamps, Laser beams, Impact shock, Hazards, Warning systems, Acoustic equipment, Radar equipment, Electronic equipment IDENIFIERS: Alternatives, Recommendations, Innovations,

3 3

This report presents an applicable series of exploratory studies, innovative design concepts and analytical methods associated with techniques to alleviate bird strike hazards to aircraft and crew compartments. In an endeavor to reduce the probability of aircraft/bird mid-air collisions research has been directed to bird deterring and detection systems, crew compartment protection devices, windshield designs, and analytical methods impact designs.

3

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CDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. ZOMO9

AD-A014 631 5/1 NAVAL POSTGRADUATE SCHOOL MONTEREY CALIF Technological Forecasting and Management Action.

3

DESCRIPTIVE NOTE: Master's thesis, JUN 75 101P Jabery, Abdolhose:n Mojtehed;

# UNCLASSIFIED REPORT

AMANAGEMENT, \*Technology, \*Forecasting,
\*Management, \*Planning, Transfer, Sources,
Diffusion, Inventions, Policies, Assessment,
Feedback, Decision making, Industrial research,
Military research, Long range(Time), Flow
charting, Growth(General), Theses
IDENIIFIERS: \*Technology forecasting, \*Technology

transfer, Innovation, Goals

3 3

This thesis addresses the relationship between technological forecasting, technology assessment, and technology transfer, and presents the view points of authors in the subject areas. It indicates how technology originates, is planned for and finally transfers into ultimate use. (Author)

DDC REPORT BIBLIDGRAPHY SEARCH CONTROL NO. ZOMO9

SYSTEMS RESEARCH LABS INC DAYTON OHIO 5/2 AD-A014 335

Technological Changes on Human Resources. A Procedure for Quantification of

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JUN 75 90P Potter, Norman R. ; Korkan, Kenneth D. ; Dieterly, Duncan L. ; CONTRACT: F33615-74-C-4019 DESCRIPTIVE NOTE: Interim rept.,

PROJ: AF-7907 TASK: 790700

TR-75-33 MONITOR: AFHRL

# UNCLASSIFIED REPORT

Allocations, Systems engineering IDENTIFIERS: Technology forecasting, Innovations, Design option decision trees, DODI(Design option Human factors engineering, Decision theory, Air Force operations, Weapon systems, Impact, Trade Analysis of variance, Correlation techniques, Methodology, Management planning and control, \*Human resources, \*Technology, off analyses, Decision making, Air Force Maintenance, Logistics Support, Ratings, \*Mathematical prediction, Forecasting, personnel, Skills, Air Force training, DESCRIPTORS:

this study was to locate and apply an existing method, or to develop a new procedure for quantifying the effects of incoming technology. A procedure (DODT) with a modificaton of the method of summated A long standing research objective of the human factors psychologist has been the capability to predict the human resource requirements of new equipment. An even more intriguing problem is the prediction of human resource requirements based on the introduction of new technology. The purpose of ratings was developed to permit quantification of specific human resource components at each of the operational unit, the method developed under this design options represented in the DODT. Using integrating the Design Option Decision Tree judgmental data collected from an Air Force study effort was evaluated.

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DDC REPORT BIBLIDGRAPHY SEARCH CONTROL NO.

SYSTEMS RESEARCH LABS INC DAYTON DHID 5/2 AD-A014 332

Development, Application, and Evaluation of a Procedure for Quant, fication of Technological Change Impact on Human Resources.

DESCRIPTIVE NOTE: Final rept. 3 Dec 73-15 Apr 75,

3

Potter, Norman R. ; Korkan, JUN 75 48P Potter, Nor Kenneth D.; Dieterly, Duncan L.; CONTRACT: F33615-74-C-4019 PROJ: AF-7907 TASK: 790700

TR-75-29(1) MONITOR: AFHRL

# UNCLASSIFIED REPORT

See also AD-A014 333. SUPPLEMENTARY NOTE:

IDENTIFIERS: Innovations, Technology forecasting, Design, Design option decision trees, DODI (Design option decision trees) Force operations, Weapon systems, Impact, Trade off analyses, Skills, Effectiveness, Air Force Human factors engineering, Decision theory, Air Methodology, Management planning and control, personnel, Job analysis, Logistics support, Ratings, Measurement, Systems engineering \*Human resources, \*Technology, training, Maintenance, Manpower, Air Force \*Mathematical prediction, Forecasting, DESCRIPTORS:

3

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decision trees), Design

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development of methods for determining the components and measuring the effects of advances in technology with a modification of the method of summated ratings was developed to arrive at a quantification of human existing techniques to result in a new method for measuring the effects of technology on Air Force on human resources in Air Force weapon systems. The first phase of the study was reported in ADACOD 051. The second phase involved the development of Design Option Decision Trees (DDD) for two areas of Air Force systems technology: Digital Avionics Information System (DAIS) and Remotely Piloted Vehicle A multiphased study was conducted to lead to the human resources. A method integrating the DODT Systems (RPV). The third phase called for the development of unique methods or synthesis of

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resource effects of technological innovations.

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ZOMOS SEARCH CONTROL NO. DOC REPORT BIBLIDGRAPHY

NAVAL POSTGRADUATE SCHOOL MONTEREY CALIF 17/7 AD-A009 934

Development of a Modified Aids to Navigation Management Information System for the United States Coast Guard with an Illustrated Application Through Cost-Effectiveness and Malfunction Analyses.

Stephan, Robert Marshall DESCRIPTIVE NOTE: Master's thesis, MAR 75 294P Stephan,Rol

# UNCLASSIFIED REPORT

range(Distance), Buoys, Reviews, Storage batteries, Flash lamps, Solid state physics, Radar reflectors, Theses, Plastic lenses, Acoustic information systems, \*Coast Guard, Modification, Cost effectiveness, Malfunctions, Short DESCRIPTORS: \*Navigational aids, \*Management signals, Primary batteries, Replacement, DENTIFIERS: Innovations

this report provides a legal and historical record of the navaid. A modified management information system is presented and its application is determined that a need exists to modify the present examine, and evaluate Certain cost-effectiveness illustrated through selected cost-effectiveness Navigation (SRAN) Sub-System developed by the System. In addition to providing information, The purpose of this project is to identify, Aids to Navigation Management Information relationships of the Short Range Aids to United States Coast Guard. It was ana lyses

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ZOM09 SEARCH CONTROL NO. DOC REPORT BIBLIDGRAPHY

SYSTEMS RESEARCH LABS INC DAYTON OHIO AD-A000 051

Methods for Predicting and Assessing the Impact of Technology on Human Resource Parameters: Report of the Literature

3

DESCRIPTIVE NOTE: Final rept., Potter, Norman R.; Dieterly,

3

Duncan L. ; CONTRACT: F33615-74-C-4019 PROJ: AF-7907

MONITOR: AFHRL TASK:

# UNCLASSIFIED REPORT

SUPPLEMENTARY NOTE:

\*Forecasting, Correlation techniques, Reviews, Assessment, Air Force research, Mathematical prediction, Human factors engineering, Impact
IDENTIFIERS: Innovat.ons \*Human resources, \*Technology, DESCRIPTORS:

33

33

and of determining and graphically depicting the array of trade-off options available before inception of using human resources data in design trade studies quantizing human resource parameters with respect to of hardware design. The purpose of this review was to establish the current status of the methodology manpower (e.g., numbers, job types, skill levels), training considerations, and cost data. Earlier investigations established the feasibility methods for defining the components of innovative incoming technology on Air Force human resources. The human resource parameters of concern include for forecasting and assessing technology and for technology and for measuring the effects of the the impact of incoming technologies. (Modified A research objective of the Air Force Human Resources Laboratory is the development of

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author abstract)

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20MD9 SEARCH CONTROL NO. DDC REPORT BIBLIDGRAPHY

AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OHIO SCHOOL OF SYSTEMS AND LOGISTICS 5/10 AD- 891 310

The Politics of Innovation: Pattern of an Air Force Case.

3

Morris, David L. ; Master's thesis, REPT. NO. SLSR-15-718 46P CESCRIPTIVE NOTE: AUG

UNCLASSIFIED REPORT

33 MESCRIPTORS: (\*AIR FORCE PERSONNEL,
ATTITUDES(PSYCHOLOGY)), (\*AIRCRAFT EQUIPMENT,
MODIFICATION KITS), REVIEWS, EFFECTIVENESS, APPLIED
PSYCHOLOGY, SEQUENCES(MATHEMATICS), THESES
DENTIFIERS: \*INNOVATIONS, \*RESISTANCE TO CHANGE DESCRIPTORS:

3 advocates overcome initial resistance to their ideas, case are compared with technological innovation caes observed and reported in the Navy to determine if common patterns exist in each case. case study of an organizational innovation initiated within the Air Force Logistics Command was undertaken in order to examine the behavior patterns approving authority. The patterns observed in this implement their ideas are thwarted by those with a case study approach provides insight into the politics used by the advocates. In the paper, a To better understand how successful innovation efforts to exhibited by innovators when their

20MD9 SEARCH CONTROL NO. DOC REPORT BIBLIDGRAPHY

UNCLASSIFIED

HUMAN FACTORS RESEARCH INC GOLETA CALIF AD- 874 789

Attitudinal Factors in the Acceptance of Innovations in the Navy.

3

Mecherikoff, Michael ; Mackie, DESCRIPTIVE NOTE: Final rept., 178P JUN 70 Robert R. ;

CONTRACT: N00014-68-C-0304 PROU: NR-170-713 UNCLASSIFIED REPORT

3 DESCRIPTORS: (\*ADJUSTMENT(PSYCHOLOGY), NAVAL PERSONNEL), (\*ATTITUDES(PSYCHOLOGY), NAVAL TRAINING), MOTIVATION, CREATIVITY, REACTION(PSYCHOLOGY), ACCEPTABILITY, DESIGN, EATINING DEVICES, NAVAL EQUIPMENT, LOADERS, SONAR EQUIPMENT, MAINTENANCE EQUIPMENT, PERCEPTION(PSYCHOLOGY), OPERATION, GROUP DYNAMICS, LEADERSHIP, INSTRUCTORS, QUESTIONNAIRES, HUMAN FACTORS CONSERVATISM, \*INNOVATIONS, INTERVIEWS, IDENTIFIERS: DESCRIPTORS: ENGINEERING

3 USER SURVEYS

training devices, and operational procedures, sometimes culminating in outright rejection, an attempt was made to translate principles derived from laboratory research on attitude formation and change suggested that variables not typically studied in the laboratory are often crucial in practical situations, research. As a complementary approach, case studies were conducted of the actual introduction to Navy personnel of several innovations, including an addition to revealing a number of violations of good practice relating to the variables typically studied operational equipment, a training device, and two operational procedures. The case studies, in into practical guidelines that would maximize acceptance of innovations by Navy personnel. This attempt was only partially successful because of certain characteristics of much of the laboratory in laboratory investigations of attitude change, principles reflected by the research literature. personnel to innovations in operating equipment, In response to evident resistance by military and provided insights which supplemented the

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STATISTICS TECHNOLOGICAL INNOVATION IN CIVILIAN PUBLIC AREAS, )- 824 388 13/8 18/12 18/13 ANALYTIC SERVICES INC FALLS CHURCH VA AD- 824 388

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SEARCH CONTROL NO.

DDC REPORT BIBLIDGRAPHY

UNCLASSIFIED

Black, Ronald P. ; Foreman, 261P SEP 67 CONTRACT: A

# UNCLASSIFIED REPORT

ACDA/E-118

3 3 PESCRIPTORS: (\*NUCLEAR INDUSTRIAL APPLICATIONS, URBAN PLANNING), INDUSTRIAL RESEARCH, NUCLEAR REACTORS, INDUSTRIES, DEPARTMENT OF DEFENSE, FEASIBILITY STUDIES, NUCLEAR PROPULSION, OPERATIONS RESEARCH, PROBLEM SOLVING, TRANSPORTATION, ARMS CONTROL, URBAN AREAS, RESEARCH MANAGEMENT, RAILROADS, NUCLEAR ENGINEERING, CIVIL ENGINEERING IDENTIFIERS: INNOVATION(TECHNOLOGY), RAPID

TRANSIT

Change; The Civilian Nuclear Power Reactor; The Metropolitan Rapid Transit System; The Intercity Transport System; Contents: The Process of Technological Findings and Recommendations.

3

**20M09** SEARCH CONTROL NO. GEORGE WASHINGTON UNIV WASHINGTON D C DEPT OF DDC REPORT BIBLIDGRAPHY 12/1 AD- 783 688

Analysis of Interactions between Categorical Variables.

3

3

REPT. NO. TR-22 CONTRACT: N00014-67-A-0214-0015, AF-AFOSR-1513-69 PROJ: NR-042-267 DESCRIPTIVE NOTE: Technical rept.,
AUG 74 21P Kullback,S.;Reeves,P. N.

# UNCLASSIFIED REPORT

# SUPPLEMENTARY NOTE:

DESCRIPTORS: \*Multivariate analysis, \*Hospitals, Data acquisition, Health, Discriminate analysis IDENTIFIERS: Contingency tables, Innovations

estimation and associated procedures are applied to The principle of minimum discrimination information data from a survey of hospitals to determine the relationship of innovativeness on certain hospital characteristics. (Author)

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DDC REPORT BIBLIDGRAPHY SEARCH CONTROL NO. ZOMO9

TEXAS UNIV AUSTIN COMPUTER-ASSISTED INSTRUCTION LAB AD- 781 749

Technical Literature Review Concerning Management Information Systems.

3

DESCRIPTIVE NOTE: Interim rept. 19 Mar 73-19 Jun 73, Logan, Robert ; O'Neil. Harold F. , Jr.; Judd, Wilson A. ; Harmon, E. 44P MAY 74

CONTRACT: F41609-73-C-0019 Glynn :

TR-74-50 AFHRL MONITOR: AFHR

# UNCLASSIFIED REPORT

\*Management information systems, \*Data \*On line systems, Research management, Evolution(Development), Assessment, Computer applications, Feasibility studies, Reviews, Bibliographies, Abstracts Management planning and control, Technology, Interactions, Human factors engineering, DESCRIPTORS: management,

DENTIFIERS: Innovations, Comparative studies

33

The primary objective of the literature review was to obtain sources of information relevant to the feasibility and utility of an on-line data management system in support of the management and planning effort in the research and development environment of that is, with how analysis, design, operation, evaluation, and user considerations affect management information systems. (Author) bibliography of 112 references. The intended audience for the bibliography was middle- and upperselected that would familiarize such personnel with aspects of management information systems (MIS); the context and interrelationships of the many literature reviewed resulted in an annotated level management personnel. Documents were the Air Force Human Resources Laboratory. The formal documentation of the technical

### UNCLASSIFIED

SEARCH CONTROL NO. ZOMO9 DDC REPORT BIBLIOGRAPHY

)- 777 417 5/9 13/10
NAVAL SHIP RESEARCH AND DEVELOPMENT CENTER ANNAPOLIS AD- 777 417

Reduced Bridge Manning without Equipment Augmentation Results of Ship Reports and Comments.

3

DESCRIPTIVE NOTE: Research and development rept., Lane, Richard ; Schwartz, 386 APR 74

NSRDC-27-756 Melvin A. : REPT. NO.

# UNCLASSIFIED REPORT

\*Ship personnel, \*Manpower utilization, \*Shipboard, Manpower, Reduction, Personnel management, Cost effectiveness, Equipment, Variations, Performance(Human), Destroyers, Tenders(Vessels), Amphibious ships, Aircraft carriers, Job analys,s, Escort ships, Frigates, DESCRIPTORS: Efficiency

IDENTIFIERS: \*Ship bridge manning, Recommendations, Innovations

3

3

As one of several steps toward more effective personnel utilization and reduced manpower costs, the through the development and evaluation of innovative procedural changes and the introduction of state-offindings and recommendations, based on subjective self-evaluations provided by the ships which the-art equipment to augment bridge capabilities. bridge manning. The objective of the program was to establish 'minimum' bridge watch requirements chief of Naval operations (CND) established a pilot program in September 1972 to reduce ship The report documents some of the major program participated in the program.

3

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DDC REPORT BIBLIDGRAPHY SEARCH CONTROL NO. ZOMO9

AD- 772 087 5/1 FORECASTING INTERNATIONAL LTD ARLINGTON VA Development of a Technology Assessment and Advanced Technology Transfer Program for the Department of the Army. Part 1. DESCRIPTIVE NOTE: Final rept...
JUN 73 88P Cetron, Marvin J. ;Roepcke,

CONTRACT: DAHC19-72-C-0031

# UNCLASSIFIED REPORT

SUPPLEMENTARY NOTE: See also AD-771 874.

DESCRIPTORS: \*Management planning and control,
 \*Army, \*Technology, Assessment, Transfer, Army
 research, Mathematical prediction, Impact,
 Environments, Forecasting, Classification
 IDENTIFIERS: Alternatives, Innovations

33

The study has two primary purposes: to develop a management planning tool for the Department of the Army and to evaluate specific innovations by means of it. This tool, described and demonstrated herein, can be used to make continuous assessments of the potential impacts of alternative Army research programs—including impacts both on the Army itself and on the physical and social environment with which the Army interacts. The kinds of programs which can be assessed include a wide range of possible technological, administrative, and institutional (U)

## UNCLASSIFIED

DOC REPORT BIBLIDGRAPHY SEARCH CONTROL NO. ZOMO9

AD- 768 070 5/9 RAND CORP SANTA MONICA CALIF

Models of Educational Innovation and Implications for Research,

3

MAR 73 29P Klitgaard,Robert E. REPT. NO. P-4977

3

# UNCLASSIFIED REPORT

DESCRIPTORS: (\*EDUCATION, \*MANAGEMENT ENGINEERING),
BEVIEWS, SHRSTITHES, MODEL THEORY, OPGANIZATIONS

REVIEWS, SUBSTITUTES, MODEL THEORY, ORGANIZATIONS, RESEARCH MANAGEMENT IDENTIFIERS: INNOVATION(TECHNOLOGY), PUBLIC SCHOOLS,

3

DENTIFIERS: INNOVATION(TECHNOLOGY), PUBLIC SCHOOLS, EDUCATION (U)

A discussion of innovative methods in education outlines the major logical elements that a theory of innovative behavior should comprise. These are objectives, implementation, production possibilities, and evaluation. Two competing explanatory models are developed, both with the same logical superstructure but with different emphases and parameter values. The paper attempts a step toward the formulation and research of testable propositions about innovation and the schools.

F 766 861 5/9 5/1 RAND CORP SANTA MONICA CALIF AD- 766 861

Incentives for Innovation in the Public Schools,

3

Pincus, John : 48P P-4946 REPT. NO. P-

# UNCLASSIFIED REPORT

DESCRIPTORS: (\*TEACHING METHODS, SYSTEMS ENGINEERING), (\*MANAGEMENT PLANNING AND CONTROL, EDUCATION), THEORY, MOTIVATION, ATTITUDES(PSYCHOLOGY), ORGANIZATIONS, ANALOG SYSTEMS, ECONOMICS

IDENTIFIERS: BUREAUCRACIES, PUBLIC SCHOOLS, RESEARCH AND DEVELOPMENT, INCENTIVES, INNOVATIONS (U)

 $\hat{\epsilon}$ propositions may have certain systematic implications structure and incentive systems of public schools as they relate to the adoption of innovations and to broader questions, such as how to implement planned The paper sets out some propositions about the for education R and D policy as well as for their implementation in the schools. The change in bureaucracies.

#### UNCLASSIFIED

20M09 SEARCH CONTROL NO. AD- 760 116 5/9
APPLIED SCIENCE ASSOCIATES INC VALENCIA DDC REPORT BIBLIDGRAPHY

Instructional Strategies for a Performance

Oriented Techniian Course.

3

DESCRIPTIVE NOTE: Final technical rept. Jul 71-Sep 72, Pieper, William J. : Foss.

MAR 73 171P Pier Frank C.; Smith, Edgar A.; CONTRACT: F33615-71-C-1908

PRCJ: AF-1193 TASK: 11930B

TR-72-74 MONITOR: AFHRL

# UNCLASSIFIED REPORT

DESCRIPTORS: (\*AIR FORCE TRAINING, \*TECHNICIANS),
TEACHING METHODS, PROGRAMMED INSTRUCTION, COMPUTER
PROGRAMMING, REVIEWS, STUDENTS, MANAGEMENT ENGINEERING, **EFFECTIVENESS** DESCRIPTORS:

IDENTIFIERS: INNOVATIONS, COMPUTER AIDED INSTRUCTION

3

Ë A study was initiated to devise innovative instructional strategies to be used in a performance oriented technical training course. The strategies evaluation of selected strategies will be performed development and demonstration of their feasibility the current weapons mechanic (TAC) course. An self-pacing in a proposed computer based Advanced Instructional System (AIS). A detailed devised were student centered and applicable for strategies generated, 5 were chosen for detailed Strategies, student characteristics, instructor Strategies were then generated based on data concentrating on course content, instructional characteristics, and course administration. examination was made of the current course,

in the near future. (Author)

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**SOMOS** SEARCH CONTROL NO. DDC REPORT BIBLIDGRAPHY

ILLINDIS UNIV SAVOY AVIATION RESEARCH LAB AD- 748 237

Research and the Future of Engineering Psychology.

3

Adams, Jack A. ; REPT. NO. ARL-71-19/AFOSR-71-6 CONTRACT: F44620-70-C-0105 PROJ: AF-9778 MONITOR: AFOSR TR-72-1662 21P

# UNCLASSIFIED REPORT

SUPPLEMENTARY NOTE: Presented to The Society of Engineering Psychologists, Division 21 of the American Psychological Association, 4 Sep 71.

3 3 DESCRIPTORS: (\*MAN MACHINE SYSTEMS, DESIGN), (\*HUMAN FACTORS ENGINEERING, \*REVIEWS), SCIENTIFIC RESEARCH, RESEARCH MANAGEMENT, EFFECTIVENESS
IDENTIFIERS: RESEARCH AND DEVELOPMENT, HINDSIGHT PROJECT, INNOVATION (TECHNOLOGY)

3 few generating new knowledge, with the result that the capability for system innovation is not as strong discipline in engineering and psychology is dependent upon the robustness of the scientific knowledge that impressive innovations in products. The demands of product development have called for too much short-term research and too little long-term research of the kind most effective for producing important innovations in new systems. Several remedial it applies to the design of man-machine systems. As practitioners applying knowledge and comparatively necessary for generating the knowledge that brings The vigor of engineering psychology as an applied a field, engineering psychology mostly has its rather long-term basic and applied research is as it should be. Project Hindsight of the Department of Defense and Project TRACES of courses of action are considered. (Author) the National Science Foundation snow that

## UNCLASSIFIED

SEARCH CONTROL NO. DOC REPORT BIBLIDGRAPHY

NAVAL UNDERSEA RESEARCH AND DEVELOPMENT CENTER SAN DIEGO 13/10 AD- 738 922 CALIF

Transparent Hull Submersibles and the Makakai.

3

DESCRIPTIVE NOTE: Research and development rept., Talkington, Howard R. ; 27P

Murphy . Douglas W. ; NUC-1P-283 REPT. NO.

# UNCLASSIFIED REPORT

3 DESCRIPTORS: (\*UNDERWATER VEHICLES, HULLS(MARINE)),
WEIGHT, MANEUVERABILITY, VISIBILITY, DESIGN, ACRYLIC
RESINS, MATERIALS, STRUCTURES, DATA PROCESSING, MARINE
PROPULSION, CONTROL SYSTEMS, LIFE SUPPORT
IDENTIFIERS: MANNED SUBMERSIBLES, INNOVATIONS

3

3 the design constraints, the ordinary technical problems encountered, and the innovations made during (Hawaiian for 'Eye of the Sea'), can carry two men within its transparent acrylic hull to depths of 183 m. All-around visibility and a very high strength-to-weight ratio are special features of its uses of the craft and the experience gained during the early at-sea operations are also discussed, and photographs of the undersea operations are propulsion control, and life-support equipment. The design. The objectives of the development program, designs in materials, structures, data processing, The transparent hull submersible (THS), MAKAKAI Included among the innovations are specialized the submersible's development are described.

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#### UNCLASSIFIED

20MD9 SEARCH CONTROL NO. DDC REPORT BIBLIDGRAPHY

SUSSEX UNIV BRIGHTON (ENGLAND) SCIENCE POLICY RESEARCH AD- 734 790

Diffusion of Technical Innovation

3

DESCRIPTIVE NOTE: Final scientific rept. 1 Dec 69-31 Freeman, Christopher; CONTRACT: EDDAR-70-0077 NOV 71

TR-72-0006 AFOSR PROJ: AF-9769 MONITOR: UNCLASSIFIED REPORT

DESCRIPTORS: (\*INDUSTRIAL RESEARCH, DISSEMINATION), FACTOR ANALYSIS, RESEARCH PROGRAM ADMINISTRATION, GREAT IDENTIFIERS: \*INNOVATION(TECHNOLOGY)

3 of a 'success' and a 'failure', and data collected to better understanding of user needs; greater attention of similar innovators were selected, each consisting effective use of outside technology and advice; and greater seniority and authority of responsible analyzed the innovative sequence in industry. SAPPHO was designed to test explanations of success and failure in industrial innovation. Fifty pairs to marketing; more efficient development; more determine factors bearing on their success or failure. Key factors were found to include: Project SAPPHO (Scientific Activity Predictor from Patterns with Heuristic Origins) officers. (Author)

#### UNCLASSIFIED

20M09 SEARCH CONTROL NO. DDC REPORT BIBLIDGRAPHY

NEW MEXICO STATE UNIV UNIVERSITY PARK AD- 734 387

Conference on Industrial Innovation through Contract Research, 15-16 April 1971 - University of Newcastle upon Tyne.

3

Hein, Robert A. DESCRIPTIVE NOTE: Conference rept., AUG 71 18P REPT. NO. ONRL-C-17-71

# UNCLASSIFIED REPORT

DESCRIPTORS: (\*INDUSTRIAL RESEARCH, \*CONTRACTS),
(\*SYMPOSIA, INDUSTRIAL RESEARCH), UNITED STATES, EUROPE,
GREAT BRITAIN, ORGANIZATIONS
IDENTIFIERS: RESEARCH AND DEVELOPMENT,
\*INNOVATION(TECHNOLOGY)

3 role of Tentrepeneurship' was also discussed in this regard. In addition the role of the research park The meeting was comprised of four sessions devoted to American Scene; European Scene; Contract Research in the U.K.; and Contract Research and Regional Development. Details were given of the history and mode of operation of various R and D organizations in the US and abroad. The came in for examination. (Author)

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**SOMOS** SEARCH CONTROL NO. DOC REPORT BIBLIDGRAPHY

RAND CORP SANTA MONICA CALIF AD-

2000年中的1900年

Institutions, Innovation, and Incentives,

3

Levien, Roger E. 71 16P P-4640 REPT. NO.

# UNCLASSIFIED REPORT

Symposium on Application of Computers to Electrical Engineering Education, held in Lafayette, Inc., on 26-28 Apr 71. Errata sheet inserted. SUPPLEMENTARY NOTE: Presented at the Purdue 1971

DESCRIPTORS: (\*EDUCATION, \*COMPUTERS), DESIGN, TEACHING IDENTIFIERS: INCENTIVES, INNOVATION (TECHNOLOGY)

A discussion is presented of the importance which institutional design has for the process of educational innovation. An example of the instructional use of the computer in higher education is given.

#### UNCLASSIFIED

SOMOS SEARCH CONTROL NO. DDC REPORT BIBLIDGRAPHY

RAND CORP SANTA MONICA CALIF AD- 711 734

EVALUATION AND INNOVATION IN URBAN RESEARCH,

3

Brewer, Garry D. ; 49P 70 49 P-4446 REPT. NO.

# UNCLASSIFIED REPORT

9 3 DESCRIPTORS: (\*URBAN PLANNING, RESEARCH MANAGEMENT), (\*DECISION MAKING, MATHEMATICAL MODELS), THEORY, EFFECTIVENESS, ATTITUDES(PSYCHOLOGY), COMPUTER PROGRAMMING, PROBLEM SOLVING, PHILOSOPHY IDENTIFIERS: MANAGEMENT INFORMATION SYSTEMS, INNOVATIONS, COMPUTERIZED SIMULATION, EVALUATION

3 is the development of an appraisal function, a series of questions or criteria, against which a computer simulation may be judged. Several possible recommendations are advanced that might alleviate the tempered by honest appraisal of the 'in practice' experiences registered to date. Thus a continuation of existing trends could have harmful effects both for the method and for greater processes of problem-Computer simulation is a relatively new methodology in the social sciences whose basic characleristics Correspond quite well with the requirement to understand and manage complexly organized systems. However, the 'in principle' arguments advanced in identified problem and aid eventual realization of solving in the social context. An initial problem components of such a function are discussed, stressing the so-called policy-assisting class of support of the method have been insufficiently Simulation models. Several innovative the in principle myth. (Author)

20M09 SEARCH CONTROL NO. DDC REPORT BIBLIDGRAPHY

I- 707 511 5/9 AIR FORCE HUMAN RESOURCES LAB BROOKS AFB TEX AD- 707 511

INNOVATIONS IN AIR FORCE TECHNICAL AND FLYING FRAINING

3

JUN 70 31P Valverde, Horace H. REPT. NO. AFHRL-TR-70-13

# UNCLASSIFIED REPORT

SUPPLEMENTARY NOTE: Presented at the Symposium on Evaluation of Educational Technology Applications, 22-26 Jun 70, Naval Academy, Annapolis, Maryland MAINTENANCE PERSONNEL, ELECTRONIC GOLIPMENT, PROGRAMMED INSTRUCTION, EFFECTIVENESS, PILOTS, ELECTRONIC RECORDING SYSTEMS, STANDARDS, CORRELATION TECHNIQUES, REVIEWS (U) IOENTIFIERS: RECORDING SYSTEMS, SOUND, VIDEO SIGNALS, COMPARISON, INNOVATION (TECHNOLOGY), EVALUATION (U)

3 video recondings that were of substantial help to the students when viewed after flight. (Author) systems appraoch to electronics maintenance training. to the development and evaluation of audio/ Two innovations in technical and flying training are described. The first is an application of the video recordings in undergraduate pilot training. Equipment mounted in the aircraft produced audio/ The systems approach resulted in a fourteen-week course. The conventional course required twenty four weeks. Graduates of the two courses were compared on various criteria. The second effort pertains

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SOMOS SEARCH CONTROL NO. DDC REPORT BIBLIDGRAPHY

STANFORD RESEARCH INST MENLO PARK CALIF AD- 705 702

CRITERIA FOR THE DESIGN OF NEW FORMS OF DRGANIZATION

3

Final rept. 1 Dec 66-28 Feb 70,
P Vollmer, Howard M. : DESCRIPTIVE NOTE:

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F44620-67-C-0039 McPherson, Joseph H. ; 159 20 CONTRACT: PROJ: AF-FEB

AF0SR 70-09471R AF-9779 MONITOR:

# UNCLASSIFIED REPORT

3 3 DESCRIPTORS: (\*ORGANIZATIONS, EXPERIMENTAL DESIGN),
(\*MANAGEMENT ENGINEERING, STANDARDS), THEORY, BEHAVIOR,
ANALYSIS OF VARIANCE, TRANSFORMATIONS, PERSONNEL
MANAGEMENT, INTERACTIONS, LEADERSHIP, GROUP DYNAMICS
IDENTIFIERS: \*MANAGEMENT INFORMATION SYSTEMS, INNOVATION (TECHNOLOGY)

3 to and consultants involved in the design of innovative Criteria and guidel, nes were developed for managers variables, (2) external viewing variables, and (3) internal viewing variables in organizational systems. Particular attention is given to the design of organizational entities that accommodate settings, based upon case studies of major design efforts in a variety of federal government and private organizations. These criteria and guidelines are formulated in terms of a general Systems approach to organizational design, rather than a more limited engineering or behavioral the needs, values, and aspirations of individuals and groups involved in these entities. kinds of organization in government or private approach. The systems approach considers the interactions of a number 99of (1) process (Author)

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Remarks W

# 20MD9 UNCLASSIFIED

DOC REPORT BIBLIDGRAPHY SEARCH CONTROL NO.

AD- 704 889 5/9 RAND CORP SANTA MONICA CALIF

RAND SYMPOSIUM ON PILOT TRAINING AND THE PILOT CAREER: RECOLLECTIONS OF THE CHAIRMAN,

3

Stewart, W. A. ; CONTRACT: F44620-67-C-0045 RM-6282-PR 167 REPT. NO.

UNCLASSIFIED REPORT

DESCRIPTORS: (\*PILOTS, TRAINING), (\*PROGRAMMED INSTRUCTION, SYMPOSIA), PERSONNEL MANAGEMENT, EDUCATION, MOTIVATION, TRANSFER OF TRAINING, FLIGHT SIMULATORS, DESCRIPTORS:

REPORTS INNOVATION(TECHNOLOGY)

3 training problems. Topics discussed included the conomics of flight training, the flying career, college versus high school graduates, defining the trained pilot, motivation and selection, innovation in pilot training, goals of training, transfer of training, and the role of simulators. Monica in 1970 that included Air Force officers engaged in flight training operations and in career planning, representatives of the Canadian Armed Forces and the Royal Air Force, and a cross-section of civilian research specialists in flight The document reports on a symposium held in Santa

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SEARCH CONTROL NO. DDC REPORT BIBLIDGRAPHY

BUSINESS AD- 704 808 5/1 WISCONSIN UNIV MILWAUKEE SCHOOL OF ADMINISTRATION

3 TESTING A HYPOTHESIS ON INNOVATION BY MEASUREMENT OF ORGANIZATIONAL GOAL STRUCTURES.

APR 70 13P Haberstroh, Chadwick J. CONTRACT: N00014-67-A-0128-0005 DESCRIPTIVE NOTE: Technical rept., PROJ: NR-177-921

UNCLASSIFIED REPORT

DESCRIPTORS: (\*ORGANIZATIONS, MANAGEMENT PLANNING AND CONTROL), PERFORMANCE(HUMAN), COMPUTER PROGRAMMING, ANALYSIS OF VARIANCE, FAILURE, STATISTICAL PROCESSES, DATA PROCESSING, THEORY, COMMUNICATION SYSTEMS IDENTIFIERS: OBJECTIVES, INNOVATIONS, COMPUTER DESCRIPTORS:

IDENTIFIERS: ANALYSIS

3

3

A set of measures of innovation in an organization

is derived from content-analysis of organization communication at successive time points. The data are used to test a hypothesis that innovation in divisionally controlled programs is positively related to division performance. (Author)

3

FOREIGN TECHNOLOGY DIV WRIGHT-PATTERSON AFB OHIO 20/11 702 331 AD-

CAVITATION AND HYDRAULIC ABRASIVE STABILITY OF METALS IN HYDRAULIC TURBINES (SELECTED ARTICLES),

A. G. ; Makoev, Kn. S. ; Dulnev, V. B. ;

Vedeneev, B. E. ; REPT. NO. FTD-MT-24-267-69 FTD-6040102

# UNCLASSIFIED REPORT

SUPPLEMENTARY NOTE: Edited machine trans. of mono. Kavitatsiya i Gidroshlifuyushchaya Stoikost Metallov v Gidravlicheskikh Turbinakh, n.p., 1965 p105-125.

33 DESCRIPTORS: (\*TURBINES, DEGRADATION), (\*STEEL, WEAR RESISTANCE), POWER PLANTS(ESTABLISHMENTS), RIVER CURRENTS, PARTICLES, CAVITATION, CARBON ALLOYS, REPORTS, MATHEMATICAL PREDICTION, MECHANICAL PROPERTIES, TEST METHODS, USSR DESCRIPTORS:

DENTIFIERS: HYDRAULIC TURBINES, TRANSLATIONS

3 hydroelectric power plants there is well studied the appraisal can be made on the basis of comparison of conditions of deposits on the planned hydroelectric on the whole for turbines made from carbon steel of estimate the abrasive ability of river deposits and influence of deposits contained in river water both power plant and any others close to it in pressure wear of turbined and conditions of deposits. Using the proposed method, a forecast can be made of the In the planning of new hydroelectric power plants hydroelectric power plant equipped with analogous newly planned hydroelectric power plants and for their individual parts. degree of danger of erosional destruction under degree of their danger for hydroturbines. Such located on mountain rivers it is necessary to and composition of deposits of an operational turbines, under the condition that on latest

#### UNCLASSIFIED

SEARCH CONTROL NO. DDC REPORT BIBLIDGRAPHY

OFFICE OF RESEARCH ANALYSES HOLLOMAN AFB N MEX 5/10 AD- 701 001

ON THE DIFFUSION OF INNOVATIONS RESEARCH TRADITION.

3

Quesada, Gustavo M. DESCRIPTIVE NOTE: Final rept.

3

REPT, NO. 0RA-69-0016 PROJ: AF-7909 48P 69 AON

790900

TASK:

# UNCLASSIFIED REPORT

3 DESCRIPTORS: (\*SCIENTIFIC RESEARCH, MANAGEMENT ENGINEERING), (\*DECISION MAKING, REVIEWS), THEORY, ATTITUDES(PSYCHOLOGY), AIR FORCE RESEARCH IDENTIFIERS: \*INNOVATIONS, TECHNOLOGY TRANSFER,

\*TECHNOLOGY UTILIZATION

3

The report analyzes the decision-making process of the diffusion of technological innovations and attempts to make the analysis more meaningful for the characteristics of innovations, different types of authoritarian, contingent, and collective type of adopter categories (while emphasizing the role of the earlier adopters), and the diffusion process Air Force by emphasizing the role of decisions. The author describes the and adoption stages. (Author)

3

SEARCH CONTROL NO. DDC REPORT BIBLIDGRAPHY

3 )- 678 029 5/4 PA CENTER FOR INTERNATIONAL STUDIES BUREAUCRATIC CONSERVATISM AND INNOVATION IN EASTERN AD- 678 029 EUROPE,

CONTRACT: AF-AFOSR-622-64, AF-AFOSR-622-65 Beck, Carl; 21P

PROJ: AF-9779 TASK: 977902

AF0SR 68-2546 MONITOR:

Availability: Pub. in Comparative Political Studies, v1 n2 p275-294 Jul 68. UNCLASSIFIED REPORT

3 HISTORY, TRANSFORMATIONS, COMMUNISM, GROUP DYNAMICS, LEADERSHIP, ORGANIZATIONS, ECONOMICS, LABOR, MANAGEMENT ENGINEERING, ATTITUDES(PSYCHOLOGY), PREDICTIONS (U) DENTIFIERS: BUREAUCRACIES, CONSERVATISM, INNOVATIONS, IDENTIFIERS: POLITICS DESCRIPTORS:

A study of change and constancy in the relationship of state bureaucrats to politics in Eastern does not rest with the bureaucracy but with extra changes in trade union and governmental agencies. leadership is used as one indicator along with study suggests that innovation in East Europe Europe viewing innovation as employing three roles: initiator, advocate and enforcer. The bureaucratic forces. The character of the (Author)

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## UNCLASSIFIED

SEARCH CONTROL NO. DDC REPORT BIBLIOGRAPHY

GEORGE WASHINGTON UNIV ALEXANDRIA VA HUMAN RESOURCES 5/11 RESEARCH OFFICE AD- 677 980

THE PROCESS OF EFFECTING CHANGE

3

McClelland, William A. REPT. NO. HUMRRO professional paper-32-68 CONTRACT: DA-44-188-ARO-2 PROJ: DA-2-J-024701-4-712 30P 68

2-J-024701-A-71201 TASK: UNCLASSIFIED REPORT

DESCRIPTORS: (\*SOCIAL PSYCHOLOGY, \*CULTURE),
ATTITUDES(PSYCHOLOGY), ACCEPTABILITY, EDUCATION,
MILITARY PSYCHOLOGY, INDUSTRIAL PSYCHOLOGY,
ANTHROPOLOGY, THEORY, ORGANIZATIONS
IDENTIFIERS: \*CHANGE, \*INNOVATION

33

which may have utility to practitioners as well as suggesting to scholars the large gaps in the knowledge that must be filled before a theory of change can be formulated. (Author) Summarizes some of the relevant literature on the The report indicates the importance of improving our understanding of the process of change and rural sociology, cultural anthropology, industry education, and psychology. There also is a brief outline of two paradigms or pre-models of change diffusion of innovations drawing from studies in

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AD- 673 722

SEARCH CONTROL NO. DDC REPORT BIBLIDGRAPHY SOMOS SEARCH CONTROL NO.

UNCLASSIFIED

AIR FORCE OFFICE OF SCIENTIFIC RESEARCH ARLINGTON VA AD- 669 F 673 722 15/3 13/13 5/2 SYSTEM DEVELOPMENT CORP SANTA MONICA CALIF 13/13

SCIENTIFIC RESEARCH AND INNOVATION 3 A STUDY OF THE ADOPTION-DIFFUSION PROCESS IN THE DEVELOPMENT OF SHELTER IN NEW CONSTRUCTION.

3

Price, William J. AFDSR-68-1022 26P REPT. NO. AFOSR-68 PROJ: AF-61445014 APR 68

UNCLASSIFIED REPORT

SUPPLEMENTARY NOTE: Presented at the Symposium on the Innovative Process in Industry, at the ACS Meeting, San Francisco, 2 Apr. 1 1968.

3 3 DESCRIPTORS: (\*SCIENTIFIC RESEARCH, REVIEWS),
INDUSTRIES, INDUSTRIAL PRODUCTION, INTERACTIONS,
RESEARCH MANAGEMENT, SCIENTIFIC ORGANIZATIONS,
INDUSTRIAL RESEARCH, NONLINEAR SYSTEMS, MANAGEMENT IDENTIFIERS: \*INNOVATION(TECHNOLOGY), RESEARCH AND DEVELOPMENT, TECHNOLOGY ENGINEERING

scientific research; some recent studies of the innovative process; description of the innovative process; the scientific research activity of a Topics include: invention, innovation, and mission-oriented organization.

3

UNCLASSIFIED REPORT DAHC20-67-C-0178

Streich, Eugene R.

DESCRIPTIVE NOTE: Technical memo.

73P

99 NOP

Wellishch, Jean B.; PT. NO. SDC-TM-3892/001/00

CONTRACT:

DESCRIPTORS: (\*FALLOUT SHELTERS, \*BUILDINGS), (\*CIVIL DEFENSE, FALLOUT SHELTERS), DESIGN, COMMUNICATION SYSTEMS, DIFFUSION, EDUCATION, SOCIAL COMMUNICATION, FALLOUT, NUCLEAR RADIATION, SHOCK WAVES, PROTECTION,

33 DENTIFIERS: INNOVATION (TECHNOLOGY), OVERPRESSURE

literature on diffusion-adoption processes concerning the adoption or rejection of innovations was examined A study of the diffusion process involved in implementing civil defense programs directed toward encouraging the incorporation of fallout shelter in new construction was performed. The theoretical

interviews were conducted with both program personnel for applicability, the actual program implementation effectiveness of program implementation measures. and potential adopters -- building owners and architects -- in two Civil Defense Regions. described, and suggestions for further study An analysis of the data was made, results . process was examined, and to determine the presented. (Author)

3

20MD9 SEARCH CONTROL NO. DDC REPORT BIBLIDGRAPHY

RAND CORP SANTA MONICA CALIF AD- 662 376

3 THE TECHNOLOGY GAP: ANALYSIS AND APPRAISAL

Nelson, Richard R. 35P P-3694-1 REPT. NO. DEC

Availability: Available from the Twentieth Century Fund, 41 East 70th Street, New York, UNCLASSIFIED REPORT N. Y. 10021.

conference jointly sponsored by the Agnelli Foundation and the Tocqueville Project of the Twentieth Century Fund held in Turin (Italy) 17-19 Nov 67. SUPPLEMENTARY NOTE: Prepared for presentation at a

DESCRIPTORS: (\*MANAGEMENT PLANNING AND CONTROL, ECONOMICS), (\*DISTRIBUTION(ECONOMICS), REVIEWS), NATURAL RESOURCES, SALARIES, SYSTEMS ENGINEERING, CREATIVITY, INDUSTRIES, SCIENTIFIC RESEARCH (U)

3 TECHNOLOGY GAP

military and space technology, they probably have far less to do either with U. S. Government R and corporate giants, than many people seem to believe Fifth, well meant American arguments that what lies behind the present strongly articulated concern expressed by Europeans has less to do with economic growth will not be furthered by expensive defense and space R and D programs or the years. Third, what is new about the situation and national autonomy, prestige, and military power. Fourth, the reasons for the long-standing gap are complex and poorly understood but, aside from general economic well-being than with issues of technological gap between the United States and The paper considers the following five points: Europe has existed for upwards of one hundred concept, and the phenomenon probably is real. First, the technological gap is a meaningful like a D policy, or with the size of the U. S. Second, it is nothing new; something

#### UNCLASSIFIED

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SEARCH CONTROL NO. DDC REPORT BIBLIDGRAPHY

AIR FORCE OFFICE OF SCIENTIFIC RESEARCH ARLINGTON VA DIRECTORATE OF INFORMATION SCIENCES 5/3 5/5 AD- 661 589

POLICY PLANNING FOR TECHNICAL INFORMATION IN INDUSTRY

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Wooster, Harold 199 NOV 67

PRCJ: AF-9769

67-2588 MONITOR: AFOSR

# UNCLASSIFIED REPORT

Proceedings presented at the FID/DC Symposium, Bad Godesberg (Germany), 29 Nov SUPPLEMENTARY NOTE:

33 DESCRIPTORS: (\*DOCUMENTS, \*MANAGEMENT PLANNING AND CONTROL), (\*INDUSTRIES, DOCUMENTS), SCIENTIFIC RESEARCH, INDUSTRIAL PRODUCTION, SCIENTISTS, ENGINEERS, INFORMATION RETRIEVAL, ECONOMICS, SOURCES (CIDENTIFIERS: INNOVATION(TECHNOLOGY), TECHNOLOGY

3 out the heavy reliance of engineers on informal, oral and properly oriented national environment; (II) points management of research and development in industry; and development, and (III) responsibilities of the (II) information transfer in industrial research discusses the allocation of information sources services to meet users' real or imagined needs. research and development can only flourish in a internal sources of information, but says that documentalists aren't all that different (III) documentalist in industry. (I) stresses that The paper is divided into three parts (I) (Author)

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not be persuasive, given the real issues involved.

development of giant corporations in Europe will

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5/1 RAND CORP SANTA MONICA CALIF AD-

3 INNOVATION AND MILITARY REQUIREMENTS: A COMPARATIVE STUDY,

Perry, Robert L. RM-5182-PR 90P AUG 6 REPT. NO. CONTRACT:

F44620-67-C-0045

# UNCLASSIFIED REPORT

DESCRIPTORS: (\*RESEARCH MANAGEMENT, \*AERONAUTICS),
(\*CREATIVITY, MILITARY REQUIREMENTS), FEASIBILITY
STUDIES, HISTORY, VARIABLE SWEEP WINGS, COSTS,
EFFECTIVENESS, TURBOJET ENGINES, DESIGN, PROPULSION
SYSTEMS, AIRCRAFT, ECONOMICS, INDUSTRIES, ENGINEERING,
ANALYSIS
IDENTIFIERS: INNOVATION(TECHNOLOGY)

A detailed examination of two major innovations in characterizing the evolution of jet engines and of military aeronautics--turbojet propulsion and the variable-sweep wing--using the classical economic investment model. Three phases of the innovation process are distinguished: invention or acceptance or adoption. Patterns of innovation conception, demonstration of feasibility, and

exploitation of innovations, but during peacetime the existing requirement, but the requirement should be variable-sweep wings tend to resemble one another. reaches the stage where appraisal is appropriate, built around the demonstration capability of the technical feasibility before investing in novel technical feasibility demonstrations should be military must have more compelling evidence of All evidence suggests that once an innovation conducted as quickly and cheaply as possible. Feasibility should not be subordinated to an innovation. Wartime stresses encourage early

3

devices. (Author)

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SEARCH CONTROL NO. DDC REPORT BIBLIOGRAPHY

GEORGE WASHINGTON UNIV ALEXANDRIA VA HUMAN RESOURCES RESEARCH OFFICE AD- 659 038

THE PROCESS OF CROSS-CULTURAL INNOVATION

3

Niehoff, Arthur H. ; Anderson, 21P d. Charnel ; 67

REPT. NO. HUMRRO professional paper-36-67 CONTRACT: DA-44-188-ARD-2

PROJ: DA-2J024701A712-01

# UNCLASSIFIED REPORT

33 DESCRIPTORS: (\*CULTURE, \*SOCIOLOGY), SOCIAL PSYCHOLOGY, ATTITUDES(PSYCHOLOGY), MOTIVATION, FOREIGN POLICY, LEADERSHIP, RELIGION. ECONOMICS, RECREATION IDENTIFIERS: INNOVATION(TECHNOLOGY)

groups be described. The country where the innovation was attempted is listed, along with the specific type of innovation proposed and the specific description of the change effort. The cases are then evaluated in terms of success and failure, and the most important factors, positive or negative. characteristics of the innovator and the recipient influencing the outcome are analyzed. The emerging analyzing data based on actual field studies. The primary criterion for case selection was that the The paper explores cross-cultural innovation by pattern of the total process is discussed. (Author)

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TECHNOLOGICAL CHANGE AND PUBLIC ADMINISTRATION.

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Rowan, Thomas C. ; DESCRIPTIVE NOTE: Professional paper, 20P SP-2817 REPT. NO.

# UNCLASSIFIED REPORT

SUPPLEMENTARY NOTE: Presented at the 1967 Conference of the American Society for Public Administration, San Francisco, March 1967. DESCRIPTORS: (\*DATA PROCESSING, SOCIOLOGY), (\*SOCIOLOGY, \*SYSTEMS ENGINEERING), DECISION MAKING, TRANSPORTATION, AIR POLLUTION, EDUCATION, LASERS, TIME SHARING, MANAGEMENT PLANNING AND CONTROL (U) IDENTIFIERS: INNOVATION(TECHNOLOGY). PRIVACY

3 The rapidly accelerating rate of technological change is discussed in relation to social goals. The impact of scientific and technological developments are affecting the quality of life sooner technology, communication and information processing for facilitating change and example of two areas of information management techniques and some problem and more intensely than ever before. Techniques discussed. Developments in concepts, hardware, as they impact on public administration are areas for decision makers are specified. (Author)

9 THE ROLE OF TRIAL IN THE ACCEPTANCE AND ADOPTION 1- 646 360 5/10 LIFE SCIENCES INC FORT WORTH TEX

3 NEW EQUIPMENT: A REVIEW AND SUMMARY.

DESCRIPTIVE NOTE: Final rept., AUG 66 69P Berger,P. K. :Matheny,W. Newmiller, C. E. ;

CONTRACT: Nonr-4097(00)

# UNCLASSIFIED REPORT

33 (\*MACHINES, ACCEPTABILITY), (\*MILITARY PERSONNEL, \*ADJUSTMENT(PSYCHOLOGY)),
ATTITUDES(PSYCHOLOGY), DISPLAY SYSTEMS, ALTIMETERS,
ANALYSIS OF VARIANCE, PSYCHOLOGICAL TESTS
IDENTIFIERS: INNOVATION(TECHNOLOGY) DESCRIPTORS:

studies of acceptance behavior tend to be excessively of individual differences to acceptance and adoption to lie in systematic examinations of the acceptanceparticular aim of the review is to consolidate information describing how trial usage or exposure can exhance the acceptability of new equipment developed for military utilization. The relations processes also are discussed. It is concluded that rejection processes and personal, attitudinal, and The report reviews three experiments and a substantial amount of related research literature concerned with the acceptance of innovations. The Situations. A more fruitful approach is believed restricted to specific products, personnel and group variables which affect innovativeness. (Author)

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MATERIALS ADVISORY BOARD NAS-NRC WASHINGTON D 5/1 AD- 636 529

AD HOC COMMITTEE ON PRINCIPLES OF RESEARCH-ENGINEERING INTERACTION

DESCRIPTIVE NOTE: Final rept

66 363P MAB-222-M, REPT. NO.

SD-118,

# UNCLASSIFIED REPORT

SUPPLEMENTARY NOTE:

33 DESCRIPTORS: (\*RESEARCH MANAGEMENT, DEPARTMENT OF DEFENSE), (\*ENGINEERING, SCIENTIFIC RESEARCH), SOCIAL COMMUNICATION, MATERIALS, MANAGEMENT ENGINEERING, DESCRIPTORS: MOTIVATION

DENTIFIERS: INNOVATION(TECHNOLOGY)

engineering interactions in the solution of materials investigators to make major changes in direction and goals was frequently required; (2) Close and tecnnique of analysis was developed and applied to the case histories to identify common elements and problems. The analysis identified several elements independent groups were often essential; (3) Key individuals played essential roles in bridging the investigated and case histories are presented. A which were prominent in many of the cases. Among frequent communications between organizationally patterns which might be used as guides by the these are: (1) Flexibility for the individual Department of Defense to stimulate researchfen separate material developments were

geographical, organizational, and functional barriers between groups; (4) The recognition of an

were available and lay dormant for some time before their pertinence to a specific need was recognized.

(Author)

factor in stimulating research-engineering interactions; and (5) Often technical approaches

important need was most frequently the principal

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66-1180 CONTRACT: AF-AFOSR-91-64 AFOSR MONITOR:

UNCLASSIFIED REPORT

SUPPLEMENTARY NOTE:

DESCRIPTORS: (\*MANAGEMENT ENGINEERING, ANALYSIS), PERSONNEL MANAGEMENT, BEHAVIOR, EDUCATION, STATISTICAL ANALYSIS

IDENTIFIERS: INNOVATION (TECHNOLOGY)

33

representing technological change, career progress, categories: (1) Exploration of the nature of and The work accomplished is reported under four and personal and organizational factors; (2) interrelations among a number of variables

public; (3) Reporting results of the work to potential users; (4) Anticipated publications as a result of the research performed.

Reporting results of the work to the scientific

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LOCKHEED MISSILES AND SPACE CO SUNNYVALE CALIF

CREATIVITY, INNOVATION, AND INVENTION: AN ANNOTATED BIBLIOGRAPHY,

Evans, George R. ; Stromer SB64 15 .5 10 64 5 16P 64 Peter R. REPT. NO. AUG

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SUPPLEMENTARY NOTE:

33 DESCRIPTORS: (\*MOTIVATION, BIBLIOGRAPHIES), (\*BIBLIOGRAPHIES, MOTIVATION), SCIENTIFIC RESEARCH, REASONING, INDUSTRIES IDENTIFIERS: INNOVATION, INVENTIONS

3 The recent business management literature was surveyed to assess current trends and developments in the field of creativity, innovation, and invention. The accelerating pace of technological change and implementation by both the military and aerospace industry is stressed as companies seed to adapt their its effect on aerospace research and development activities prompted this survey. The literature reveals that some tentative yardsticks are now available to identify creative talenk and the means for optimizing its usage in industry. The importance of innovation and its successful work force and facilities to new markets. (Author)

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PAGE

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CORPORATE AUTHOR - MONITORING AGENCY

PATTERSON AFB OHIO

\* \* \*
AFFOL-TR-75-VOL-1

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\*AIR FORCE FLIGHT DYNAMICS LAB WRIGHT-

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AD-A050 298

AFGSR-TR-78-0134

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\*MATERIALS ADVISORY BOARD NAS-NRC WASHINGTON D C

AD HOC COMMITTEE ON PRINCIPLES OF RESEARCH-ENGINEERING MAB-222-M INTERACTION.

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\*SYSTEMS RESEARCH LABS INC DAYTON

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TESTING A HYPOTHESIS ON INNOVATION BY MEASUREMENT OF ORGANIZATIONAL GOAL STRUCTURES.

CORP AUTHOR-MONITOR AGENCY-4 UNCLASSIFIED ZOMO9

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THE ROLE OF TRIAL IN THE
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EQUIPMENT: A REVIEW AND SUMMARY.\*

NAVAL PERSONNEL
Attitudinal Factors in the
Acceptance of Innovations in the
Navy.\*

\*AERONAUTICS
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The Politics of Innovation:
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AD- 891 310

\*AIR FORCE TRAINING
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Pattern of an Air Force Case.\*

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Transfer Program for the Department
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The Use of Evidence in
Influencing Technician Attitudes.\*
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Beliefs: Effects of Introduction
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